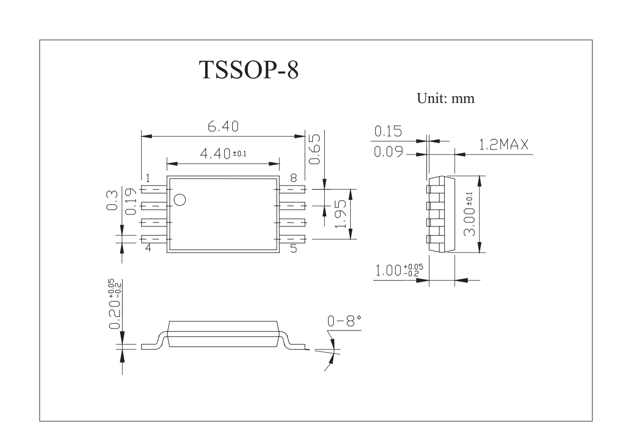


Dual N-Channel Enhancement Mode Field Effect Transistor

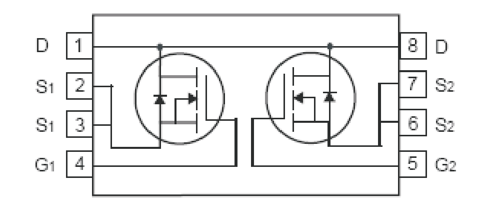
S8205A



■ Features

- 5A,20V.$r_{DS(on)}$ = 0.025 Ω @ V_{GS} = 4.5 V

  $r_{DS(on)}$ = 0.040 Ω @ V_{GS} = 2.5 V.



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current	I_{DM}	20	A
Maximum Power Dissipation T_A = 25℃	P_D	2.0	W
T_A = 70℃		1.6	W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	78	℃/W
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	40	℃/W
Jumction temperature and Storage temperature	$T_j.T_{stg}$	-55 to +150	℃

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	V_{GS} = 0 V, I_D = 250 μA	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20V , V_{GS} = 0V			1	uA
		V_{DS} = 20V , V_{GS} = 0V , T_J =55℃			5	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V , V_{GS} = ±8V			±50	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250uA	0.5		1.0	V
Drain-Source On-State Resistance *	$r_{DS(on)}$	V_{GS} = 4.5V , I_D = 5A		0.020	0.025	Ω
		V_{GS} = 2.5V , I_D = 4A		0.035	0.040	
On-State Drain Current *	$I_{D(on)}$	V_{DS} = 5V , V_{GS} = 4.5V	15			A
Forward Transconductance *	g_{fs}	V_{DS} = 5V , I_D =3A		11		S
Input Capacitance	C_{iss}	V_{DS} = 10 V, V_{GS} = 0 V,f = 1.0 MHz		700		pF
Output Capacitance	C_{oss}			175		pF
Reverse Transfer Capacitance	C_{rss}			85		pF
Total Gate Charge	Q_g	V_{DS} = 10V , V_{GS} = 4.5V , I_D = 3A		7	10	nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.9		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10V I_D = 1A , V_{GS} = 4.5V , R_G = 6Ω		8	16	ns
Rise Time	t_r			10	18	
Turn-Off Delay Time	$t_{d(off)}$			18	29	
Fall Time	t_f			5	10	
Maximum Continuous Drain-Source Diode Forward Current	I_S				1.3	A
Diode Forward Voltage *	V_{SD}	I_S = 1.7 A, V_{GS} = 0 V		0.65	1.2	V

* Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2 %.